

of their structure in the number of Müller's 'Archiv,' &c. for June 1842. This description was found by Mr. Wilson, who devoted to the investigation six months of exclusive labour, to be, in many essential particulars, exceedingly inaccurate and erroneous. The present paper contains the principal results of the author's researches on these singular animalcules, which inhabit the sebaceous follicles of the human skin, and feed on the secretions that surround them. The author enters into minute anatomical details of the structure of the various organs, and more particularly of the apparatus by which the head is retracted within the thorax, of the eyes, of the ova, and the remarkable embryonic forms which are presented in the progress of development of the young animal. He applies to this animalcule the term *entozoon*, merely as signifying an inhabitant of the interior of the body, and until a better and more appropriate appellation shall have been assigned to it.

A paper was also in part read, entitled, "Miscellaneous Observations on Animal Heat." By John Davy, M.D., F.R.S.

The President announced from the Chair, that Mr. Charles Richard Weld had been appointed Assistant Secretary.

December 21, 1843.

JAMES WALKER, Esq., Vice-President, in the Chair.

The reading of Dr. Davy's paper, entitled, "Miscellaneous Observations on Animal Heat," was resumed and concluded.

The author, in the first section of this paper, after adverting to the commonly received opinion that all fishes are cold-blooded, and noticing an exception, as he believes, in the instance of certain fishes of the genus *Thynnus* and of the *Scomber* family, describes the observations which he made whilst at Constantinople, on the temperature of the *Pelamys Sarda*, when, in three different examples, he found its heat to exceed that of the surface-water by 7°, and of the deep water probably by 12°.

He adduces some observations and remarks on peculiarities in the blood of the same fish, of the sword-fish and of the common tunny, which he supposes may be connected with their temperature; and throws out the conjecture, that the constitution of their blood-globule, formed of a containing and contained part, namely the globule and its nucleus, may be to each other in the electrical relation of positive and negative, and may thereby act with greater energy in separating oxygen in respiration.

In the second section, on the temperature of man in advanced old age, he relates a number of observations made for the purpose of determining the actual heat of persons exceeding eighty years of age; the result of which, contrary to the commonly received opinion, is, that the temperature of old persons, as ascertained by a thermome-

ter placed under the tongue, is rather above than below that of persons of middle age; and this he thinks may be explained by the circumstance, that most of the food used by old persons is expended in administering to the function of respiration.

In the third section, on the influence of air of different temperatures on animal heat, after alluding to what he had witnessed of the rise and fall of the temperature of man on entering the tropics, and, within the tropics, on descending from a cool mountainous region to a low hot country, he adduces certain observations to show that in this country similar changes of temperature take place in a few hours in breathing the air of buildings artificially heated; and, in confirmation, he describes the results of many observations made on an individual in the very variable climate of Constantinople, where, between March and July, in 1841, the thermometer ranged from 31° to 94° .

In the fourth section, he describes the observations which he made to determine the effect of moderate exercise, such as that of walking, on the temperature of the body, tending to prove, that while it promotes the diffusion of temperature and produces its exaltation in the extremities, it augments very little, if at all, the heat of the central and deep-seated parts.

A paper was also in part read, entitled, "On the Thermal Changes accompanying Basic Substitutions." By Thomas Andrews, M.D., M.R.I.A., Professor of Chemistry in the Royal Belfast Institution. Communicated by M. Faraday, Esq., D.C.L., F.R.S., &c.

The author gives an account of a series of experiments which he made on the heat evolved during the mutual reaction of acids and bases upon one another, from which he draws the general conclusion that when the influence of all extraneous circumstances is eliminated from the result, the change of temperature is determined by the nature of the base, and not by the acid element of the combination. Hence he deduces the general law that, when one base displaces another from any of its neutral combinations with an acid, the heat evolved or abstracted is always the same, whatever the acid element may be, provided the bases are the same. The base employed in the first set of experiments for displacing others was the hydrate of potash in a state of dilute solution of known strength; this was rapidly mixed, in a suitable apparatus, with an equivalent solution of the salt to be decomposed; the change of temperature which resulted was accurately determined, and the due corrections for the influence of the vessels and the specific heats of the solutions and of the precipitates produced, were applied. The experimental results are stated in various tables, from which it appears that the changes of temperature, referred to 1000 parts of water, were, with salts of

Lime	from	— 0·33	to	— 0·38
Magnesia	„	— 0·10	„	— 0·15
Barytes	„	0·		0·
Strontia	„	0·		0·